

FLOW GENERATION FUNCTIONS FOR FAF
Interface Model/FRED

General notes: Proportions for any Trade/Factor combination must sum to 1.00, product of Proportion*ParA used in model

No construction trade-to-flow ratios, since specified as non-transportable in ULP[1]-- (also requires no biz-promo trips for construction trips in both directions (Out & Ret not blank), the trip rate (ParA) is per direction, which is half of the NPTS trips. FRED will get Biz Promo person trips assumed to be (proportion =) 1% of all business trade, other proportion adjusted accordingly (except construction Commuter-style ("X" in column "C") used for non-freight trips. Freight trips use annual Reebie data.
*** Hidden column G checks that Proportion sums to 1.00 for each Trade ***

UFP[4]				FUPerTU		with t opp trade dir						Commuter-style ("X" in column "C") used for non-freight trips. Freight trips use annual Reebie data.		
Trad	Frct	Proportn	S	ParA....	ParB....	ParC....	Out.	Ret.	B	C	Fact	Fact	Description	Notes
1	1	0.96877		78.13918			5						Tons Lo VtW goods produced/ Ag employ	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
1	1	0.02123		78.13918			6						Tons Mid VtW goods produced per Ag em	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
1	1	0.01000		6.77488			9		X				Biz promo PersTrips per Ag employee	
2	1	0.99000		3233.735			5						Tons Lo VtW goods produced per Mining e	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
2	1	0.01000		6.77488			9		X				Biz promo PersTrips per Mining employee	
4	1	0.57519		328.7349			5						Tons Lo VtW goods produced per Manuf e	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
4	1	0.37323		328.7349			6						Tons Mid VtW goods produced per Manuf	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
4	1	0.04158		328.7349			7						Tons Hi VtW goods produced per Manuf ei	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
4	1	0.01000		6.77488			9		X				Biz promo PersTrips per Manufacturing employee	
5	1	0.89130		273.4654			5						Tons Lo VtW goods produced per TCPU e	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
5	1	0.09752		273.4654			6						Tons Mid VtW goods produced per TCPU	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
5	1	0.00119		273.4654			7						Tons Hi VtW goods produced per TCPU ei	Used Reebie Ind Tons/WA Ind employees, Reebie VtW category Tons/Reebie Total VtW category Tons
5	1	0.01000		6.77488			9		X				Biz promo PersTrips per TCPU employee	
6	1	0.99000		468.5919			7						Tons Hi VtW goods produced per Whol Tr	Used average tons/employees of all VtW Category for Ind 1,2,4,5,6
6	1	0.01000		6.77488			9		X				Biz promo PersTrips per Wholesale employee	
7	1	0.10000		152.4097			7					11	12 Shipped Tons Hi VtW goods produced per ParA	is tonnes of goods per employee, Proportn (10%) is the portion of those goods that are shipped by delivery.
7	1	0.10000		152.4097			7					13	14 same as above, to cover all HH groups	same as above
7	1	0.19800		152.4097			7						Biz Shipped Tons Hi VtW goods produced	same as above, Proportn (20%) is higher because businesses are more likely to get retail goods shipped to them
7	1	0.90000		5.81162			2	2	X	X		11	12 In-store Shopping PersTrips per Retail Em	Shopping trips per retail employee (Proportn*ParA) assumed constant regardless of whether Proportn (portion of goods picked-up)
7	1	0.90000		5.81162			2	2	X	X		13	14 same as above, to cover all HH groups	same as above
7	1	0.79200		6.60412			2	2	X				business to business shopping PersTrips	same as above, Proportn is lower because businesses more likely to have retail goods shipped to them
7	1	0.01000		6.77488			9		X				Biz promo PersTrips per Retail employee	
8	1	0.99046		3.55187			8	8	X				Service PersTrips per FIRE employee	proportion chosen so service ParA =Biz Promo ParA (to match above format), based on NPTS "work related biz" trips/HH * WA HH
8	1	0.00954		3.55187			9	9	X				Biz Promo PersTrips per FIRE employee	same as above
9	1	1.00000		0.00010			8	8	X				NA	shouldn't be needed, as all consuming factors are accounted for below
9	1	0.00000		4.37503			3	3	X	11		12	12 soc/Rec PersTrips per service employee	Used NPTS soc/Rec trips, assumed 50% service industry attracted
9	1	0.00000		4.37503			3	3	X	13		14	14 same as above, to cover all HH groups	same as above
9	1	0.99046		3.55187			8	8	X	1		2	2 Service PersTrips per FIRE employee	trip rate/employee should be higher than factor 8 because not all employees are consumed inter-industry
9	1	0.00954		3.55187			9	9	X	1		2	2 Biz Promo PersTrips per FIRE employee	same as above
9	1	0.99046		3.55187			8	8	X	3		4	4 same as above, to cover all industries	same as above
9	1	0.00954		3.55187			9	9	X	3		4	4 same as above, to cover all industries	same as above
9	1	0.99046		3.55187			8	8	X	5		6	6 same as above, to cover all industries	same as above
9	1	0.00954		3.55187			9	9	X	5		6	6 same as above, to cover all industries	same as above
9	1	0.99046		3.55187			8	8	X	7		8	8 same as above, to cover all industries	same as above
9	1	0.00954		3.55187			9	9	X	7		8	8 same as above, to cover all industries	same as above
9	1	0.99046		3.55187			8	8	X	9		10	10 same as above, to cover all industries	same as above
9	1	0.00954		3.55187			9	9	X	9		10	10 same as above, to cover all industries	same as above
10	1	0.99046		3.55187			8	8	X				Gov't trip rates, same as FIRE for now	
10	1	0.00954		3.55187			9	9	X				Gov't trip rates, same as FIRE for now	
11	1	1.00000		1.27547			1	1	X				Commuting PersTrips per HH	used NPTS commute Pers trips
12	1	1.00000		1.27547			1	1	X				same as above, to cover all HH groups	same as above, for inc group 2
13	1	1.00000		1.27547			1	1	X				same as above, to cover all HH groups	same as above, for inc group 3
14	1	1.00000		1.27547			1	1	X				same as above, to cover all HH groups	same as above, for inc group 4 (highest)
15	1	0.82691		2558.85			10	10					ext-internal truck trips per import \$M	Reebie (Intrastate and outbound US/Canada) CY97 truck tons/\$M of import
15	1	0.17309		2558.85			11	11					ext-ext truck trips per import \$M	EWITS 95 daily truck tons*365/\$M of import
16	1	0.61018		0.50000			3	3	X				Soc/Rec PersTrips, assume 50% attractec use 0.5 in each direction.	Factor units are NPTS other trips attracted by population (not-related to the consumption of services), oth
16	1	0.38982		0.50000			4	4	X				vfr PersTrips (assumed 100% attracted by	same as above

on employees)
nerate one trip in each direction, to match the NPTS total trips
on)

by weight) changes

t/WA Empl (All for service flow, FIRE+services+gov't for Biz promo)

iers captured in trade 9 services